

U.S. Patent Application No. 10/035,027
Response Dated March 14, 2008
Reply to Office Action of November 15, 2007

REMARKS

In the office communication mailed November 15, 2007 as entered in the above-captioned matter, claims 1, 12, and 17 were rejected under 35 U.S.C. 103(a) given Ling et al. (U.S. Patent No. 6,771,706) (“Ling”) in view of Vila et al. (U.S. Patent No. 6,757,348) (“Vila”). Claims 2-8, 10, 11, 13-16, and 18 were rejected under 35 U.S.C. 103(a) given Ling in view of Vila and further in view of Sarraf et al. (U.S. Patent No. 6,747,948) (“Sarraf”). Claims 19, 22, 23, 28, and 29 were found to be allowable. The applicant respectfully traverses these rejections and requests reconsideration.

Rejections under 35 U.S.C. 103(a)

Claims 1, 12, and 17 have been rejected under 35 U.S.C. 103 given Ling in view of Vila. Claims 12 and 17 have been cancelled and are no longer presented for consideration. Claim 1 has been amended to include the limitations of dependent claim 10. Accordingly, the rejection of claim 1 in view of Ling and Vila has been traversed. The discussion of claim 1 as combined with claim 10 appears below.

Claims 2-8, 10, 11, 13-16, and 18 were rejected under 35 U.S.C. 103(a) given the combination of Ling and Vila in view of Sarraf. As noted above, independent claim 1 has been amended to include the subject matter of claim 10 (with claim 10 having been cancelled). With respect to claim 10, the Examiner suggests that Sarraf discloses interleaving the encoded bits of the datastream in a way that “includes alternating assignment of consecutive encoded bits to the radio frequency transmitters and on a plurality of the subcarriers having *channel responses with low correlation*” [emphasis provided]. The Examiner cites column 3, lines 57- col. 4, line 5 of Sarraf as supporting this observation.

That portion of Sarraf reads as follows:

Each interleaver 18 receives a bit stream and reorders bits in the bit stream to separate adjacent bits. The interleaved stream is then output to the OFDM signal generation unit 20. An example of an internal view of the interleaver 18 is shown in FIG. 1C. The interleaver 18 includes a plurality of rows 30 and columns 32. The number of columns 32 is determined by the number of sub-carriers in each substream of the OFDM communications system. Assuming n sub-carriers in each substream, the number of columns is equal to n sub-carriers times the number of bits per symbol. The number of bits per symbol typically varies between 2 and 6 but is not confined to this range and depends upon the type phase shift keying (PSK) used in the OFDM system. For example, quadrature phase shift keying (Q-PSK) utilizes two bits for each symbol. The correlation between pairs of 5 bits and each Q-PSK symbol will be explained below.

The applicant respectfully observes that neither this portion of Sarraf nor any other portion of Sarraf addresses the claimed stipulation regarding the requirement that the subcarriers have “low channel response correlation to thereby exploit an increased amount of special and increased diversity.” Both Ling and Vila are similarly deficient in this manner as acknowledged by the Examiner. The applicant therefore respectfully submits that no combination of these three references, regardless of how obvious or unobvious that combination may be, will suffice to yield a resultant combination that matches the recitations of claim 1 in this regard.

The applicant therefore respectfully submits that claim 1 is allowable over the references of record and may be passed to allowance.

Claims 2-8 and 11 are ultimately dependent upon claim 1, which claim has been shown allowable above. While the applicant believes that other arguments are available to highlight the allowable subject matter presented in various of these dependent claims, the applicant also believes that the comments set forth herein regarding allowability of the independent claims are sufficiently compelling to warrant present exclusion of such additional points for the sake of brevity.

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The remaining pending claims, 19, 22, 23, 28, and 29 have previously been found to be allowable and the applicant again thanks the Examiner for this indication of allowable subject matter.

Conclusion

There being no other objections to or rejections of the claims, the applicant respectfully submits that claims 1-8, 11, 19, 22, 23, 28, and 29 are allowable over the references of record and may be passed to allowance.

Respectfully submitted,

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